

BCS 04-501-PCT_SEQUENZPROTOKOLL_Verfahren zur Identifizierung.ST25
SEQUENCE LISTING**10/591419**

<110> Bayer CropScience GmbH

<120> Methods for identifying proteins with starch phosphorylating enzymatic activity

<130> BCS 04-5001-PCT

<150> EP04090483.1

<151> 2004-12-15

<150> EP04090121.7

<151> 2004-03-29

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<151> 2004-03-05

<150> US60/549,980 provisional

<151> 2004-03-05

<160> 26

<170> PatentIn version 3.1

<210> 1

<211> 3591

<212> DNA

<213> Arabidopsis thaliana

<220>

<221> CDS

<222> (1)..(3591)

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Thr Arg Asn Ser Ser Ser Leu Pro Arg Leu Val Asn Ile Thr His
20 25 30

aga gtt aat ctc agc cac caa tct cac cga ctc aga aac tcc aat tct 144
Arg Val Asn Leu Ser His Gln Ser His Arg Leu Arg Asn Ser Asn Ser
35 40 45

cgt ctc act tgc act gct act tct tcc acc att gag gaa caa cgg 192
Arg Leu Thr Cys Thr Ala Thr Ser Ser Ser Thr Ile Glu Glu Gln Arg
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Lys Lys Lys Asp Gly Ser Gly Thr Lys Val Arg Leu Asn Val Arg Leu
65 70 75 80

gat cat caa gtt aat ttt ggt gac cat gtg gct atg ttt gga tca gct 288
Asp His Gln Val Asn Phe Gly Asp His Val Ala Met Phe Gly Ser Ala
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aaa gag att ggt tca tgg aaa aag aaa tcg cct ttg aat tgg agt gag 336
Lys Glu Ile Gly Ser Trp Lys Lys Ser Pro Leu Asn Trp Ser Glu
100 105 110

aat gga tgg gtt tgt gag ttg gaa ctt gac ggt ggt cag gtt ttg gag 384
Asn Gly Trp Val Cys Glu Leu Glu Leu Asp Gly Gly Gln Val Leu Glu
115 120 125

tat aag ttt gtc att gtt aag aat gat ggt tca ctt tca tgg gaa tct 432
Tyr Lys Phe Val Ile Val Lys Asn Asp Gly Ser Leu Ser Trp Glu Ser
130 135 140

ggt gat aat cgt gtc ctt aag gtt cca aat tct ggg aat ttt tct gtt 480
Gly Asp Asn Arg Val Leu Lys Val Pro Asn Ser Gly Asn Phe Ser Val
145 150 155 160

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Val Cys His Trp Asp Ala Thr Arg Glu Thr Leu Asp Leu Pro Gln Glu
165 170 175

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Val Gly Asn Asp Asp Asp Val Gly Asp Gly Gly His Glu Arg Asp Asn
180 185 190

cat gat gtt ggt gat gat aga gta gtg gga agt gaa aat ggt gcg cag 624
His Asp Val Gly Asp Asp Arg Val Val Gly Ser Glu Asn Gly Ala Gln
195 200 205

ctt cag aag agt aca ttg ggt ggg caa tgg caa ggt aaa gat gcg tcc 672
Leu Gln Lys Ser Thr Leu Gly Gly Gln Trp Gln Gly Lys Asp Ala Ser
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Phe Met Arg Ser Asn Asp His Gly Asn Arg Glu Val Gly Arg Asn Trp
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Asp Thr Ser Gly Leu Glu Gly Thr Ala Leu Lys Met Val Glu Gly Asp
245 250 255

cgc aac tct aag aac tgg tgg aga aag ctt gaa atg gta cgc gag gtt 816
Arg Asn Ser Lys Asn Trp Trp Arg Lys Leu Glu Met Val Arg Glu Val

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260 265 270

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gga gga gct gat caa ctg gca aaa gat gtg gga tca aga aac gtt gcc Gly Gly Ala Asp Gln Leu Ala Lys Asp Val Gly Ser Arg Asn Val Ala 545 550 555 560	1680
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gag ctg cct cac ttg tct cac ctt ggc gtt aga gcg cg ^g cag gag aaa Glu Leu Pro His Leu Ser His Leu Gly Val Arg Ala Arg Gln Glu Lys 755 760 765	2304
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tct tcc aat agc ctc ctt tac tct tcc aag gat atc cct agt gga gga Ser Ser Asn Ser Leu Leu Tyr Ser Ser Lys Asp Ile Pro Ser Gly Gly 850 855 860	2592
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1070 1075 1080

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Trp Arg Leu Ala Ser Gly Lys	Leu Asp Gly Ile Val	Gln Thr Leu	
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Lys Arg Leu Thr Val Asp Ser	Val Phe Arg Gln Gln	Leu Gly Gln	
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<213> Arabidopsis thaliana

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 115 120 125

Tyr Lys Phe Val Ile Val Lys Asn Asp Gly Ser Leu Ser Trp Glu Ser
 130 135 140

Gly Asp Asn Arg Val Leu Lys Val Pro Asn Ser Gly Asn Phe Ser Val
 145 150 155 160

Val Cys His Trp Asp Ala Thr Arg Glu Thr Leu Asp Leu Pro Gln Glu
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Val Gly Asn Asp Asp Asp Val Gly Asp Gly Gly His Glu Arg Asp Asn
 180 185 190

His Asp Val Gly Asp Asp Arg Val Val Gly Ser Glu Asn Gly Ala Gln
 195 200 205

Leu Gln Lys Ser Thr Leu Gly Gly Gln Trp Gln Gly Lys Asp Ala Ser
 210 215 220

Phe Met Arg Ser Asn Asp His Gly Asn Arg Glu Val Gly Arg Asn Trp
 225 230 235 240

Asp Thr Ser Gly Leu Glu Gly Thr Ala Leu Lys Met Val Glu Gly Asp
 245 250 255

Arg Asn Ser Lys Asn Trp Trp Arg Lys Leu Glu Met Val Arg Glu Val
 260 265 270

Ile Val Gly Ser Val Glu Arg Glu Glu Arg Leu Lys Ala Leu Ile Tyr
 275 280 285

Ser Ala Ile Tyr Leu Lys Trp Ile Asn Thr Gly Gln Ile Pro Cys Phe
 290 295 300

Glu Asp Gly Gly His His Arg Pro Asn Arg His Ala Glu Ile Ser Arg
 305 310 315 320

Leu Ile Phe Arg Glu Leu Glu His Ile Cys Ser Lys Lys Asp Ala Thr
 325 330 335

Pro Glu Glu Val Leu Val Ala Arg Lys Ile His Pro Cys Leu Pro Ser
 340 345 350

Phe Lys Ala Glu Phe Thr Ala Ala Val Pro Leu Thr Arg Ile Arg Asp
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Ile Ala His Arg Asn Asp Ile Pro His Asp Leu Lys Gln Glu Ile Lys
370 375 380

His Thr Ile Gln Asn Lys Leu His Arg Asn Ala Gly Pro Glu Asp Leu
385 390 395 400

Ile Ala Thr Glu Ala Met Leu Gln Arg Ile Thr Glu Thr Pro Gly Lys
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Tyr Ser Gly Asp Phe Val Glu Gln Phe Lys Ile Phe His Asn Glu Leu
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Lys Asp Phe Phe Asn Ala Gly Ser Leu Thr Glu Gln Leu Asp Ser Met
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Lys Ile Ser Met Asp Asp Arg Gly Leu Ser Ala Leu Asn Leu Phe Phe
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Ile Ala Met Arg Gln Lys Trp Arg Leu Cys Glu Ile Gly Leu Glu Asp
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Tyr Phe Phe Val Leu Leu Ser Arg Phe Leu Asn Ala Leu Glu Thr Met
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565 570 575

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580 585 590

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595 600 605

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610 615 620

Ala Arg Arg Leu Thr Ala Glu Tyr Ser Asp Leu Leu Leu Gln Ile Phe
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625 630 635 640

Pro Pro Asn Val Glu Ile Leu Gly Lys Ala Leu Gly Ile Pro Glu Asn
645 650 655

Ser Val Lys Thr Tyr Thr Glu Ala Glu Ile Arg Ala Gly Ile Ile Phe
660 665 670

Gln Ile Ser Lys Leu Cys Thr Val Leu Leu Lys Ala Val Arg Asn Ser
675 680 685

Leu Gly Ser Glu Gly Trp Asp Val Val Val Pro Gly Ser Thr Ser Gly
690 695 700

Thr Leu Val Gln Val Glu Ser Ile Val Pro Gly Ser Leu Pro Ala Thr
705 710 715 720

Ser Gly Gly Pro Ile Ile Leu Leu Val Asn Lys Ala Asp Gly Asp Glu
725 730 735

Glu Val Ser Ala Ala Asn Gly Asn Ile Ala Gly Val Met Leu Leu Gln
740 745 750

Glu Leu Pro His Leu Ser His Leu Gly Val Arg Ala Arg Gln Glu Lys
755 760 765

Ile Val Phe Val Thr Cys Asp Asp Asp Asp Lys Val Ala Asp Ile Arg
770 775 780

Arg Leu Val Gly Lys Phe Val Arg Leu Glu Ala Ser Pro Ser His Val
785 790 795 800

Asn Leu Ile Leu Ser Thr Glu Gly Arg Ser Arg Thr Ser Lys Ser Ser
805 810 815

Ala Thr Lys Lys Thr Asp Lys Asn Ser Leu Ser Lys Lys Thr Asp
820 825 830

Lys Lys Ser Leu Ser Ile Asp Asp Glu Glu Ser Lys Pro Gly ser Ser
835 840 845

Ser Ser Asn Ser Leu Leu Tyr Ser Ser Lys Asp Ile Pro Ser Gly Gly
850 855 860

Ile Ile Ala Leu Ala Asp Ala Asp Val Pro Thr Ser Gly Ser Lys Ser
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Ala Ala Cys Gly Leu Leu Ala Ser Leu Ala Glu Ala Ser Ser Lys Val
885 890 895

His Ser Glu His Gly Val Pro Ala Ser Phe Lys Val Pro Thr Gly Val
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Glu Gly Gly Glu Leu Asp Asp Ile Cys Asp Gln Ile His Glu Val Met
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Lys Thr Leu Gln Val Pro Lys Glu Thr Ile Asn Ser Ile Ser Lys Ala
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Phe Leu Lys Asp Ala Arg Leu Ile Val Arg Ser Ser Ala Asn Val Glu
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Asp Leu Ala Gly Met Ser Ala Ala Gly Leu Tyr Glu Ser Ile Pro Asn
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Lys Arg Leu Thr Val Asp Ser Val Phe Arg Gln Gln Leu Gly Gln
 1145 1150 1155

Arg Leu Gly Ser Val Gly Phe Phe Leu Glu Arg Asn Phe Gly Cys
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Ala	Ser	Arg	Asn	Trp	Trp	Arg	Lys	Leu	Glu	Val	Val	Arg	Gly	Ile	Leu
270						275					280			285	
tca	gaa	tct	ttt	gat	gac	cag	agt	cgt	ctg	ggg	gcc	ctt	gta	tac	tca
Ser	Glu	Ser	Phe	Asp	Asp	Gln	Ser	Arg	Leu	Gly	Ala	Leu	Val	Tyr	Ser
						290				295			300		
gct	att	tat	ctg	aag	tgg	att	tat	aca	ggt	cag	ata	tcg	ttt	gaa	
Ala	Ile	Tyr	Leu	Lys	Trp	Ile	Tyr	Thr	Gly	Gln	Ile	Ser	Cys	Phe	Glu
						305			310			315			
gat	ggt	ggc	cac	cat	cgg	cct	aac	aaa	cat	gct	gag	ata	tcg	agg	caa
Asp	Gly	Gly	His	His	Arg	Pro	Asn	Lys	His	Ala	Glu	Ile	Ser	Arg	Gln
						320			325			330			
ata	ttc	cgt	gaa	ctt	gaa	atg	atg	tat	tat	ggg	aaa	acc	aca	tca	gcc
Ile	Phe	Arg	Glu	Leu	Glu	Met	Met	Tyr	Tyr	Gly	Lys	Thr	Thr	Ser	Ala
						335			340			345			
aag	gat	gtt	ctc	gtg	att	cgc	aaa	att	cat	ccc	ttt	tta	cct	tca	ttt
Lys	Asp	Val	Leu	Val	Ile	Arg	Lys	Ile	His	Pro	Phe	Leu	Pro	Ser	Phe
						350			355			360			
aag	tca	gag	ttt	aca	gcc	tct	gtc	cct	cta	aca	cga	att	cgt	gat	att
Lys	Ser	Glu	Phe	Thr	Ala	Ser	Val	Pro	Leu	Thr	Arg	Ile	Arg	Asp	Ile
						370					375			380	
gct	cac	cg	aat	gac	atc	cca	cat	gat	ctc	aag	caa	gaa	atc	aag	cat
Ala	His	Arg	Asn	Asp	Ile	Pro	His	Asp	Leu	Lys	Gln	Glu	Ile	Lys	His
						385			390			395			
act	ata	caa	aac	aaa	ctt	cat	cgt	aat	gct	gga	cct	gag	gat	ctt	att
Thr	Ile	Gln	Asn	Lys	Leu	His	Arg	Asn	Ala	Gly	Pro	Glu	Asp	Leu	Ile
						400			405			410			

BCS 04-501-PCT_SEQUENZPROTOKOLL_Verfahren zur Identifizierung.ST25

gct aca gaa gtc atg ctt gct agg att act aag acc cct gga gaa tac Ala Thr Glu Val Met Leu Ala Arg Ile Thr Lys Thr Pro Gly Glu Tyr 415 420 425	1299
agt gaa aca ttt gtt gaa caa ttc acg ata ttt tat agc gaa cta aaa Ser Glu Thr Phe Val Glu Gln Phe Thr Ile Phe Tyr Ser Glu Leu Lys 430 435 440 445	1347
gat ttc ttc aat gct ggc agc cta ttt gag caa ctg gag tcc atc aag Asp Phe Phe Asn Ala Gly Ser Leu Phe Glu Gln Leu Glu Ser Ile Lys 450 455 460	1395
gaa tct ctg aac gag tca ggc tta gaa gtt ctc tca tcc ttt gtg gaa Glu Ser Leu Asn Glu Ser Gly Leu Glu Val Leu Ser Ser Phe Val Glu 465 470 475	1443
acc aaa agg agt ttg gac caa gtg gat cat gca gaa gat ttg gat aaa Thr Lys Arg Ser Leu Asp Gln Val Asp His Ala Glu Asp Leu Asp Lys 480 485 490	1491
aat gat acc att caa att ttg atg act acc ttg caa tca tta tct tct Asn Asp Thr Ile Gln Ile Leu Met Thr Thr Leu Gln Ser Leu Ser Ser 495 500 505	1539
cta aga tcg gtt cta atg aag ggc ctt gaa agt ggc ctt aga aat gat Leu Arg Ser Val Leu Met Lys Gly Leu Glu Ser Gly Leu Arg Asn Asp 510 515 520 525	1587
gcg cct gat aat gct ata gca atg cga caa aag tgg cgc ctt tgt gaa Ala Pro Asp Asn Ala Ile Ala Met Arg Gln Lys Trp Arg Leu Cys Glu 530 535 540	1635
att agt ctt gag gat tat tca ttt gtt ctg tta agc aga ttc atc aat Ile Ser Leu Glu Asp Tyr Ser Phe Val Leu Leu Ser Arg Phe Ile Asn 545 550 555	1683
act ctt gaa gcc tta ggt gga tca gct tca ctt gca aag gat gta gct Thr Leu Glu Ala Leu Gly Gly Ser Ala Ser Leu Ala Lys Asp Val Ala 560 565 570	1731
aga aat act act cta tgg gat act act ctt gat gcc ctt gtc att ggc Arg Asn Thr Thr Leu Trp Asp Thr Thr Leu Asp Ala Leu Val Ile Gly 575 580 585	1779
atc aat caa gtt agc ttt tca ggt tgg aaa aca gat gaa tgt att gcc Ile Asn Gln Val Ser Phe Ser Gly Trp Lys Thr Asp Glu Cys Ile Ala 590 595 600 605	1827
ata ggg aat gag att ctt tcc tgg aag caa aaa ggt cta tct gaa agt Ile Gly Asn Glu Ile Leu Ser Trp Lys Gln Lys Gly Leu Ser Glu Ser 610 615 620	1875
gaa ggt tgt gaa gat ggg aaa tat att tgg tca cta aga ctt aaa gct Glu Gly Cys Glu Asp Gly Lys Tyr Ile Trp Ser Leu Arg Leu Lys Ala 625 630 635	1923
aca ctg gac aga gca cgg aga tta acg gaa gag tac tct gaa gca ctt Thr Leu Asp Arg Ala Arg Arg Leu Thr Glu Glu Tyr Ser Glu Ala Leu 640 645 650	1971
ctt tct ata ttc cct gaa aaa gta atg gtt att ggg aaa gcc ctt gga Leu Ser Ile Phe Pro Glu Lys Val Met Val Ile Gly Lys Ala Leu Gly 655 660 665	2019
ata cca gat aac agt gtg aga act tac aca gag gca gaa att cgt gct Ile Pro Asp Asn Ser Val Arg Thr Tyr Thr Glu Ala Glu Ile Arg Ala 670 675 680 685	2067

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gac att gtt ttt cag gta tct aaa cta tgc aca gta ctt cag aaa gca Gly Ile Val Phe Gln Val Ser Lys Leu Cys Thr Val Leu Gln Lys Ala	2115
690 695 700	
att cga gaa gta ctt gga tca act ggc tgg gat gtt ctt gtt cct gga Ile Arg Glu Val Leu Gly Ser Thr Gly Trp Asp Val Leu Val Pro Gly	2163
705 710 715	
gtg gcc cat gga act ctg atg cggtg gaa aga att ctt cct gga tca Val Ala His Gly Thr Leu Met Arg Val Glu Arg Ile Leu Pro Gly Ser	2211
720 725 730	
tta cct tca tct gtc aaa gaa cct gtgtt cta att gta gat aag gct Leu Pro Ser Ser Val Lys Glu Pro Val Val Leu Ile Val Asp Lys Ala	2259
735 740 745	
gat gga gat gaa gag gtc aaa gct gct ggg gat aat ata gtt ggt gtt Asp Gly Asp Glu Glu Val Lys Ala Ala Gly Asp Asn Ile Val Gly Val	2307
750 755 760 765	
att ctt ctt cag gaa cta cct cac ctt tca cat ctt ggt gtt aga gct Ile Leu Leu Gln Glu Leu Pro His Leu Ser His Leu Gly Val Arg Ala	2355
770 775 780	
cgt caa gag aat gtt gta ttt gta act tgt gaa tat gat gac aca gtt Arg Gln Glu Asn Val Val Phe Val Thr Cys Glu Tyr Asp Asp Thr Val	2403
785 790 795	
aca gat gtg tat ttg ctt gag gga aaa tat atc aga tta gaa gca tca Thr Asp Val Tyr Leu Leu Glu Gly Lys Tyr Ile Arg Leu Glu Ala Ser	2451
800 805 810	
tcc atc aat gtc aat ctc tca ata gtt tca gaa aaa aat gac aat gct Ser Ile Asn Val Asn Leu Ser Ile Val Ser Glu Lys Asn Asp Asn Ala	2499
815 820 825	
gtc tct aca gaa cca aat agt aca ggg aat cca ttt caa cag aaa ctc Val Ser Thr Glu Pro Asn Ser Thr Gly Asn Pro Phe Gln Gln Lys Leu	2547
830 835 840 845	
caa aat gaa ttc tct cta cca tcg gat atc gag atg cca ctg caa atg Gln Asn Glu Phe Ser Leu Pro Ser Asp Ile Glu Met Pro Leu Gln Met	2595
850 855 860	
tct aag caa aaa agc aaa tca gga gtg aat ggt agt ttt gct gct ctt Ser Lys Gln Lys Ser Lys Ser Gly Val Asn Gly Ser Phe Ala Ala Leu	2643
865 870 875	
gag ctt tca gaa gct tca gtg gaa tca gct ggt gca aaa gct gct gca Glu Leu Ser Glu Ala Ser Val Glu Ser Ala Gly Ala Lys Ala Ala Ala	2691
880 885 890	
tgc aga act ctt tct gtt ctt gct tca ttg tct aat aaa gtc tat agt Cys Arg Thr Leu Ser Val Leu Ala Ser Leu Ser Asn Lys Val Tyr Ser	2739
895 900 905	
gat caa gga gtt cca gca gcc ttt aga gtc cct tct ggt gct gtg ata Asp Gln Gly Val Pro Ala Ala Phe Arg Val Pro Ser Gly Ala Val Ile	2787
910 915 920 925	
cca ttt gga tca atg gag gat gcg ctc aag aaa agt gga tca ctg gaa Pro Phe Gly Ser Met Glu Asp Ala Leu Lys Lys Ser Gly Ser Leu Glu	2835
930 935 940	
tcc ttt aca agc ctt cta gaa aag att gaa aca gcc aaa gtc gaa aat Ser Phe Thr Ser Leu Leu Glu Lys Ile Glu Thr Ala Lys Val Glu Asn	2883
945 950 955	

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ggt gaa gtt gat agc ctg gcg ttg gag cta caa gca ata att tca cat Gly Glu Val Asp Ser Leu Ala Leu Glu Leu Gln Ala Ile Ile Ser His 960 965 970	2931
ctt tcc cca ccg gag gag act att ata ttt ctc aaa aga atc ttc cca Leu Ser Pro Pro Glu Glu Thr Ile Ile Phe Leu Lys Arg Ile Phe Pro 975 980 985	2979
cag gat gtc cg ^g ttg att gtt aga tct agt gct aat gtg gag gat ttg Gln Asp Val Arg Leu Ile Val Arg Ser Ser Ala Asn Val Glu Asp Leu 990 995 1000 1005	3027
gct ggt atg tca gct gct ggt ctc tat gat tca att ccc aat gtc Ala Gly Met Ser Ala Ala Gly Leu Tyr Asp Ser Ile Pro Asn Val 1010 1015 1020	3072
agt ctc atg gac cca tgt gcc ttt gga gct gcg gtt ggg aag gtt Ser Leu Met Asp Pro Cys Ala Phe Gly Ala Ala Val Gly Lys Val 1025 1030 1035	3117
tgg gct tct tta tac aca agg aga gcc atc cta agc cgt cga gcc Trp Ala Ser Leu Tyr Thr Arg Arg Ala Ile Leu Ser Arg Arg Ala 1040 1045 1050	3162
gct ggt gtt tat cag aga gac gcg aca atg gct gtt ctt gtc caa Ala Gly Val Tyr Gln Arg Asp Ala Thr Met Ala Val Leu Val Gln 1055 1060 1065	3207
gaa ata ctg cag cca gat ctc tcc ttc gtt ctt cat act gtt tgc Glu Ile Leu Gln Pro Asp Leu Ser Phe Val Leu His Thr Val Cys 1070 1075 1080	3252
ccc gct gac cat gac ccc aag gtt gtc cag gct gag gtc gcc cct Pro Ala Asp His Asp Pro Lys Val Val Gln Ala Glu Val Ala Pro 1085 1090 1095	3297
ggg ctg ggt gaa acg ctt gct tca gga acc cgt ggc acc ccg tgg Gly Leu Gly Glu Thr Leu Ala Ser Gly Thr Arg Gly Thr Pro Trp 1100 1105 1110	3342
agg ctg tca tgt aac aaa ttc gat gga aaa gtt gcc act ctt gcc Arg Leu Ser Cys Asn Lys Phe Asp Gly Lys Val Ala Thr Leu Ala 1115 1120 1125	3387
ttt tca aat ttc agt gag gag atg gtg gtg cac aac tct ggt cct Phe Ser Asn Phe Ser Glu Glu Met Val Val His Asn Ser Gly Pro 1130 1135 1140	3432
gcc aat gga gaa gta att cgt ctt act gtt gat tac agc aag aag Ala Asn Gly Glu Val Ile Arg Leu Thr Val Asp Tyr Ser Lys Lys 1145 1150 1155	3477
cca ttg tcg gtt gat aca acc ttt agg aag cag ttt ggt cag cga Pro Leu Ser Val Asp Thr Thr Phe Arg Lys Gln Phe Gly Gln Arg 1160 1165 1170	3522
ctg gct gcg att ggc cag tat ctg gag cag aag ttc ggg agt gca Leu Ala Ala Ile Gly Gln Tyr Leu Glu Gln Lys Phe Gly Ser Ala 1175 1180 1185	3567
cag gat gtg gaa ggt tgc ctg gtt ggg aaa gat att ttt ata gtg Gln Asp Val Glu Gly Cys Leu Val Gly Lys Asp Ile Phe Ile Val 1190 1195 1200	3612
caa agc agg cca cag cca tag aagccgaatt c Gln Ser Arg Pro Gln Pro 1205	3644

BCS 04-501-PCT_SEQUENZPROTOKOLL_Verfahren zur Identifizierung.ST25

<210> 4

<211> 1206

<212> PRT

<213> Oryza sativa

<400> 4

Met Thr Ser Leu Arg Pro Leu Glu Thr Ser Leu Ser Ile Gly Gly Arg
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Pro Arg Arg Gly Leu Val Leu Pro Pro Pro Gly Val Gly Ala Gly val
20 25 30

Leu Leu Arg Arg Gly Ala Met Ala Leu Pro Gly Arg Arg Gly Phe Ala
35 40 45

Cys Arg Gly Arg Ser Ala Ala Ser Ala Ala Glu Arg Thr Lys Glu Lys
50 55 60

Lys Arg Arg Asp Ser Ser Lys Gln Pro Leu Val His Leu Gln Val cys
65 70 75 80

Leu Glu His Gln Val Lys Phe Gly Glu His Val Gly Ile Ile Gly Ser
85 90 95

Thr Lys Glu Leu Gly Ser Trp Glu Glu Gln Val Glu Leu Glu Trp Thr
100 105 110

Thr Asn Gly Trp Val Cys Gln Leu Lys Leu Pro Gly Glu Thr Leu Val
115 120 125

Glu Phe Lys Phe Val Ile Phe Leu Val Gly Gly Lys Asp Lys Ile Trp
130 135 140

Glu Asp Gly Asn Asn Arg Val Val Glu Leu Pro Lys Asp Gly Lys Phe
145 150 155 160

Asp Ile Val Cys His Trp Asn Arg Thr Glu Glu Pro Leu Glu Leu
165 170 175

Gly Thr Pro Lys Phe Glu Leu Val Gly Glu Ala Glu Lys Asn Thr Gly
180 185 190

Glu Asp Ala Ser Ala Ser Val Thr Phe Ala Pro Glu Lys Val Gln Asp
195 200 205

Ile Ser Val Val Glu Asn Gly Asp Pro Ala Pro Glu Ala Glu Ser Ser
210 215 220

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Lys Phe Gly Gly Gln Trp Gln Gly Ser Lys Thr Val Phe Met Arg Ser
225 230 235 240

Asn Glu His Leu Asn Lys Glu Ala Asp Arg Met Trp Asp Thr Thr Gly
245 250 255

Leu Asp Gly Ile Ala Leu Lys Leu Val Glu Gly Asp Lys Ala Ser Arg
260 265 270

Asn Trp Trp Arg Lys Leu Glu Val Val Arg Gly Ile Leu Ser Glu Ser
275 280 285

Phe Asp Asp Gln Ser Arg Leu Gly Ala Leu Val Tyr Ser Ala Ile Tyr
290 295 300

Leu Lys Trp Ile Tyr Thr Gly Gln Ile Ser Cys Phe Glu Asp Gly Gly
305 310 315 320

His His Arg Pro Asn Lys His Ala Glu Ile Ser Arg Gln Ile Phe Arg
325 330 335

Glu Leu Glu Met Met Tyr Tyr Gly Lys Thr Thr Ser Ala Lys Asp Val
340 345 350

Leu Val Ile Arg Lys Ile His Pro Phe Leu Pro Ser Phe Lys Ser Glu
355 360 365

Phe Thr Ala Ser Val Pro Leu Thr Arg Ile Arg Asp Ile Ala His Arg
370 375 380

Asn Asp Ile Pro His Asp Leu Lys Gln Glu Ile Lys His Thr Ile Gln
385 390 395 400

Asn Lys Leu His Arg Asn Ala Gly Pro Glu Asp Leu Ile Ala Thr Glu
405 410 415

Val Met Leu Ala Arg Ile Thr Lys Thr Pro Gly Glu Tyr Ser Glu Thr
420 425 430

Phe Val Glu Gln Phe Thr Ile Phe Tyr Ser Glu Leu Lys Asp Phe Phe
435 440 445

Asn Ala Gly Ser Leu Phe Glu Gln Leu Glu Ser Ile Lys Glu Ser Leu
450 455 460

Asn Glu Ser Gly Leu Glu Val Leu Ser Ser Phe Val Glu Thr Lys Arg
465 470 475 480

Ser Leu Asp Gln Val Asp His Ala Glu Asp Leu Asp Lys Asn Asp Thr
485 490 495

BCS 04-501-PCT_SEQUENZPROTOKOLL_Verfahren zur Identifizierung.ST25

Ile Gln Ile Leu Met Thr Thr Leu Gln Ser Leu Ser Ser Leu Arg Ser
500 505 510

Val Leu Met Lys Gly Leu Glu Ser Gly Leu Arg Asn Asp Ala Pro Asp
515 520 525

Asn Ala Ile Ala Met Arg Gln Lys Trp Arg Leu Cys Glu Ile Ser Leu
530 535 540

Glu Asp Tyr Ser Phe Val Leu Leu Ser Arg Phe Ile Asn Thr Leu Glu
545 550 555 560

Ala Leu Gly Gly Ser Ala Ser Leu Ala Lys Asp Val Ala Arg Asn Thr
565 570 575

Thr Leu Trp Asp Thr Thr Leu Asp Ala Leu Val Ile Gly Ile Asn Gln
580 585 590

Val Ser Phe Ser Gly Trp Lys Thr Asp Glu Cys Ile Ala Ile Gly Asn
595 600 605

Glu Ile Leu Ser Trp Lys Gln Lys Gly Leu Ser Glu Ser Glu Gly Cys
610 615 620

Glu Asp Gly Lys Tyr Ile Trp Ser Leu Arg Leu Lys Ala Thr Leu Asp
625 630 635 640

Arg Ala Arg Arg Leu Thr Glu Glu Tyr Ser Glu Ala Leu Leu Ser Ile
645 650 655

Phe Pro Glu Lys Val Met Val Ile Gly Lys Ala Leu Gly Ile Pro Asp
660 665 670

Asn Ser Val Arg Thr Tyr Thr Glu Ala Glu Ile Arg Ala Gly Ile Val
675 680 685

Phe Gln Val Ser Lys Leu Cys Thr Val Leu Gln Lys Ala Ile Arg Glu
690 695 700

Val Leu Gly Ser Thr Gly Trp Asp Val Leu Val Pro Gly Val Ala His
705 710 715 720

Gly Thr Leu Met Arg Val Glu Arg Ile Leu Pro Gly Ser Leu Pro Ser
725 730 735

Ser Val Lys Glu Pro Val Val Leu Ile Val Asp Lys Ala Asp Gly Asp
740 745 750

Glu Glu Val Lys Ala Ala Gly Asp Asn Ile Val Gly Val Ile Leu Leu
755 760 765

BCS 04-501-PCT_SEQUENZPROTOKOLL_Verfahren zur Identifizierung.ST25

Gln Glu Leu Pro His Leu Ser His Leu Gly Val Arg Ala Arg Gln Glu
 770 775 780

Asn Val Val Phe Val Thr Cys Glu Tyr Asp Asp Thr Val Thr Asp Val
 785 790 795 800

Tyr Leu Leu Glu Gly Lys Tyr Ile Arg Leu Glu Ala Ser Ser Ile Asn
 805 810 815

Val Asn Leu Ser Ile Val Ser Glu Lys Asn Asp Asn Ala Val Ser Thr
 820 825 830

Glu Pro Asn Ser Thr Gly Asn Pro Phe Gln Gln Lys Leu Gln Asn Glu
 835 840 845

Phe Ser Leu Pro Ser Asp Ile Glu Met Pro Leu Gln Met Ser Lys Gln
 850 855 860

Lys Ser Lys Ser Gly Val Asn Gly Ser Phe Ala Ala Leu Glu Leu Ser
 865 870 875 880

Glu Ala Ser Val Glu Ser Ala Gly Ala Lys Ala Ala Ala Cys Arg Thr
 885 890 895

Leu Ser Val Leu Ala Ser Leu Ser Asn Lys Val Tyr Ser Asp Gln Gly
 900 905 910

Val Pro Ala Ala Phe Arg Val Pro Ser Gly Ala Val Ile Pro Phe Gly
 915 920 925

Ser Met Glu Asp Ala Leu Lys Lys Ser Gly Ser Leu Glu Ser Phe Thr
 930 935 940

Ser Leu Leu Glu Lys Ile Glu Thr Ala Lys Val Glu Asn Gly Glu Val
 945 950 955 960

Asp Ser Leu Ala Leu Glu Leu Gln Ala Ile Ile Ser His Leu Ser Pro
 965 970 975

Pro Glu Glu Thr Ile Ile Phe Leu Lys Arg Ile Phe Pro Gln Asp Val
 980 985 990

Arg Leu Ile Val Arg Ser Ser Ala Asn Val Glu Asp Leu Ala Gly Met
 995 1000 1005

Ser Ala Ala Gly Leu Tyr Asp Ser Ile Pro Asn Val Ser Leu Met
 1010 1015 1020

Asp Pro Cys Ala Phe Gly Ala Ala Val Gly Lys Val Trp Ala Ser
 1025 1030 1035

BCS 04-501-PCT_SEQUENZPROTOKOLL_Verfahren zur Identifizierung.ST25

Leu Tyr Thr Arg Arg Ala Ile Leu Ser Arg Arg Ala Ala Gly Val
1040 1045 1050

Tyr Gln Arg Asp Ala Thr Met Ala Val Leu Val Gln Glu Ile Leu
1055 1060 1065

Gln Pro Asp Leu Ser Phe Val Leu His Thr Val Cys Pro Ala Asp
1070 1075 1080

His Asp Pro Lys Val Val Gln Ala Glu Val Ala Pro Gly Leu Gly
1085 1090 1095

Glu Thr Leu Ala Ser Gly Thr Arg Gly Thr Pro Trp Arg Leu Ser
1100 1105 1110

Cys Asn Lys Phe Asp Gly Lys Val Ala Thr Leu Ala Phe Ser Asn
1115 1120 1125

Phe Ser Glu Glu Met Val Val His Asn Ser Gly Pro Ala Asn Gly
1130 1135 1140

Glu Val Ile Arg Leu Thr Val Asp Tyr Ser Lys Lys Pro Leu Ser
1145 1150 1155

Val Asp Thr Thr Phe Arg Lys Gln Phe Gly Gln Arg Leu Ala Ala
1160 1165 1170

Ile Gly Gln Tyr Leu Glu Gln Lys Phe Gly Ser Ala Gln Asp Val
1175 1180 1185

Glu Gly Cys Leu Val Gly Lys Asp Ile Phe Ile Val Gln Ser Arg
1190 1195 1200

Pro Gln Pro
1205

<210> 5

<211> 12

<212> PRT

<213> Oryza sativa, Arabidopsis thaliana, Sorghum bicolor

<400> 5

Leu Pro His Leu Ser His Leu Gly Val Arg Ala Arg
1 5 10

<210> 6

<211> 7

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<212> PRT

<213> Hordeum vulgare

<400> 6

Ser Arg Arg Val Ala Gly Val
1 5

<210> 7

<211> 7

<212> PRT

<213> Hordeum vulgare

<400> 7

Val Glu Ala Glu Val Ala Pro
1 5

<210> 8

<211> 9

<212> PRT

<213> Hordeum vulgare

<400> 8

His Thr Val Ser Pro Ser Asp His Asp
1 5

<210> 9

<211> 807

<212> DNA

<213> Hordeum vulgare

<220>

<221> CDS

<222> (3)..(590)

<223>

<400> 9

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Ala Arg Gly Val Leu Pro Asn Val Ser Leu Ser Asp Pro Thr Asn

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1 5 10 15

ttc ggg tct gca gta gcg cggtt gtc tgg gcc tcg ctg tac act cggtt agg Phe Gly Ser Ala Val Ala Arg Val Trp Ala Ser Leu Tyr Thr Arg Arg	95
20 25 30	
gcc atc ctc agc cgc cggtt gtc ggc gtg ccc cag agg gac gcc aag Ala Ile Leu Ser Arg Arg Val Ala Gly Val Pro Gln Arg Asp Ala Lys	143
35 40 45	
atg gct gtc ctg gtg cag gag atg ctg gag cca gag cta tcc ttc gtg Met Ala Val Leu Val Gln Glu Met Leu Glu Pro Glu Leu Ser Phe Val	191
50 55 60	
ctc cac acg gtc agc ccc tcg gac cac gac acc agg gtc gtc gag gct Leu His Thr Val Ser Pro Ser Asp His Asp Thr Arg Val Val Glu Ala	239
65 70 75	
gag gtt gcc ccg ggg ctg ggc gag acc ctt gcc gct ggc acc cgc ggc Glu Val Ala Pro Gly Leu Gly Glu Thr Leu Ala Ala Gly Thr Arg Gly	287
80 85 90 95	
acc ccg tgg cgt ctc tcc tgc gac aag ttc gac acc gac gtc gcc acc Thr Pro Trp Arg Leu Ser Cys Asp Lys Phe Asp Thr Asp Val Ala Thr	335
100 105 110	
ctg gcc ttc gcc aac ttc agt gag gag atg cgg gtg ctc ggc tcg ggc Leu Ala Phe Ala Asn Phe Ser Glu Glu Met Arg Val Leu Gly Ser Gly	383
115 120 125	
ccc gcc gac ggc gag gtg gtg agg ctc act gtc gac tac agc acg aag Pro Ala Asp Gly Glu Val Val Arg Leu Thr Val Asp Tyr Ser Thr Lys	431
130 135 140	
ctg ctc tcc gtc gac agg acc ttc agg cag aag ttc ggt cag cgg ctg Leu Leu Ser Val Asp Arg Thr Phe Arg Gln Lys Phe Gly Gln Arg Leu	479
145 150 155	
gcc gcc gtg ggg cag tac ctg gag cag agg ttc ggg agc gcc cag gac Ala Ala Val Gly Gln Tyr Leu Glu Gln Arg Phe Gly Ser Ala Gln Asp	527
160 165 170 175	
gtg gag ggc tgc atg gtc tgg gaa gac atc tac ata gtg cag agc atg Val Glu Gly Cys Met Val Trp Glu Asp Ile Tyr Ile Val Gln Ser Met	575
180 185 190	
cca caa ccg ctg tag agtcattccgt aataatgttt agatgagcaa agttttgggtt Pro Gln Pro Leu	630
195	
ggtaataa aatttgcga aaatccatg gcaaaaataag tcaggttatga agagcccccc tgcaaacca actgattcta aataatgttt tgaattcgtg tttaaattat gggacgtgaa	690
caatgatttc cttggaatgc atgcattgtt agttttaaaa aaaaaaaaaa aaaaaaaaaa	750
807	

<210> 10

<211> 195

<212> PRT

<213> Hordeum vulgare

<400> 10

BCS 04-501-PCT_SEQUENZPROTOKOLL_Verfahren zur Identifizierung.ST25

Ala Arg Gly Val Leu Pro Asn Val Ser Leu Ser Asp Pro Thr Asn Phe
 1 5 10 15

Gly Ser Ala Val Ala Arg Val Trp Ala Ser Leu Tyr Thr Arg Arg Ala
 20 25 30

Ile Leu Ser Arg Arg Val Ala Gly Val Pro Gln Arg Asp Ala Lys Met
 35 40 45

Ala Val Leu Val Gln Glu Met Leu Glu Pro Glu Leu Ser Phe Val Leu
 50 55 60

His Thr Val Ser Pro Ser Asp His Asp Thr Arg Val Val Glu Ala Glu
 65 70 75 80

Val Ala Pro Gly Leu Gly Glu Thr Leu Ala Ala Gly Thr Arg Gly Thr
 85 90 95

Pro Trp Arg Leu Ser Cys Asp Lys Phe Asp Thr Asp Val Ala Thr Leu
 100 105 110

Ala Phe Ala Asn Phe Ser Glu Glu Met Arg Val Leu Gly Ser Gly Pro
 115 120 125

Ala Asp Gly Glu Val Val Arg Leu Thr Val Asp Tyr Ser Thr Lys Leu
 130 135 140

Leu Ser Val Asp Arg Thr Phe Arg Gln Lys Phe Gly Gln Arg Leu Ala
 145 150 155 160

Ala Val Gly Gln Tyr Leu Glu Gln Arg Phe Gly Ser Ala Gln Asp Val
 165 170 175

Glu Gly Cys Met Val Trp Glu Asp Ile Tyr Ile Val Gln Ser Met Pro
 180 185 190

Gln Pro Leu
 195

<210> 11

<211> 9

<212> PRT

<213> Solanum tuberosum

<400> 11

Pro Glu Glu Cys Lys Ala Val Gly Asn
 1 5

BCS 04-501-PCT_SEQUENZPROTOKOLL_Verfahren zur Identifizierung.ST25

<210> 12

<211> 7

<212> PRT

<213> Solanum tuberosum

<400> 12

Thr Glu Glu Tyr Ser Glu Thr
1 5

<210> 13

<211> 7

<212> PRT

<213> Solanum tuberosum

<400> 13

Arg Phe Val Asn Ala Val Glu
1 5

<210> 14

<211> 7

<212> PRT

<213> Solanum tuberosum

<400> 14

Glu Gly Ser Glu Asp Gly Lys
1 5

<210> 15

<211> 403

<212> DNA

<213> Solanum tuberosum

<220>

<221> CDS

<222> (1)..(402)

<223>

BCS 04-501-PCT_SEQUENZPROTOKOLL_Verfahren zur Identifizierung.ST25

<400> 15

gcg gat gct tca ata gct atg cgt cag aag tgg cgt ctc tgc gaa atc
 Ala Asp Ala Ser Ile Ala Met Arg Gln Lys Trp Arg Leu Cys Glu Ile
 1 5 10 15

ggg ctt gaa gac tat gca ttt gtt ctt ttg agc agg ttt gtg aat gca
 Gly Leu Glu Asp Tyr Ala Phe Val Leu Leu Ser Arg Phe Val Asn Ala
 20 25 30

gtt gaa gct cta ggc gga gct gat tgg ctt gca gag aat gta aca gtg
 Val Glu Ala Leu Gly Gly Ala Asp Trp Leu Ala Glu Asn Val Thr Val
 35 40 45

aaa aac att agt tct tgg aat gat cca att gga gca ctt aca gtt gga
 Lys Asn Ile Ser Ser Trp Asn Asp Pro Ile Gly Ala Leu Thr Val Gly
 50 55 60

atc caa cag cta ggt ata tct ggt tgg aag ccc gag gaa tgc aaa gct
 Ile Gln Gln Leu Gly Ile Ser Gly Trp Lys Pro Glu Glu Cys Lys Ala
 65 70 75 80

gtt gga aat gaa ctt ttg tca tgg aaa gaa agg ggt att tca gaa att
 Val Gly Asn Glu Leu Leu Ser Trp Lys Glu Arg Gly Ile Ser Glu Ile
 85 90 95

gaa ggc agc gaa gat ggt aag act ata tgg gca tta aga cta aaa gcg
 Glu Gly Ser Glu Asp Gly Lys Thr Ile Trp Ala Leu Arg Leu Lys Ala
 100 105 110

act ctt gat aga agt cga agg tta act gag gag tat tcc gag aca ctt
 Thr Leu Asp Arg Ser Arg Arg Leu Thr Glu Glu Tyr Ser Glu Thr Leu
 115 120 125

ctc caa ata ttc cct gaa a
 Leu Gln Ile Phe Pro Glu
 130

<210> 16

<211> 134

<212> PRT

<213> Solanum tuberosum

<400> 16

Ala Asp Ala Ser Ile Ala Met Arg Gln Lys Trp Arg Leu Cys Glu Ile
 1 5 10 15

Gly Leu Glu Asp Tyr Ala Phe Val Leu Leu Ser Arg Phe Val Asn Ala
 20 25 30

Val Glu Ala Leu Gly Gly Ala Asp Trp Leu Ala Glu Asn Val Thr Val
 35 40 45

Lys Asn Ile Ser Ser Trp Asn Asp Pro Ile Gly Ala Leu Thr Val Gly
 50 55 60

Ile Gln Gln Leu Gly Ile Ser Gly Trp Lys Pro Glu Glu Cys Lys Ala
 Seite 25

65 BCS 04-501-PCT_SEQUENZPROTOKOLL_Verfahren zur Identifizierung.ST25
70 75 80

Val Gly Asn Glu Leu Leu Ser Trp Lys Glu Arg Gly Ile Ser Glu Ile
85 90 95

Glu Gly Ser Glu Asp Gly Lys Thr Ile Trp Ala Leu Arg Leu Lys Ala
100 105 110

Thr Leu Asp Arg Ser Arg Arg Leu Thr Glu Glu Tyr Ser Glu Thr Leu
115 120 125

Leu Gln Ile Phe Pro Glu
130

<210> 17

<211> 7

<212> PRT

<213> Sorghum bicolor

<400> 17

Asp Gly Gly His His Arg Pro
1 5

<210> 18

<211> 8

<212> PRT

<213> Sorghum bicolor

<400> 18

Asp Ala Pro Asp Ser Ala Ile Ala
1 5

<210> 19

<211> 9

<212> PRT

<213> Sorghum bicolor

<400> 19

Ile Pro Glu Asn Ser Val Arg Thr Tyr
1 5

<210> 20

BCS 04-501-PCT_SEQUENZPROTOKOLL_Verfahren zur Identifizierung.ST25

ctt att gct act gaa gcc atg ctt gct agg att act aag act cct gga	433
Leu Ile Ala Thr Glu Ala Met Leu Ala Arg Ile Thr Lys Thr Pro Gly	
130 135 140	
gag tac agt gaa gct ttt gtt gaa caa ttc aag acg ttt tat agt gaa	481
Glu Tyr Ser Glu Ala Phe Val Glu Gln Phe Lys Thr Phe Tyr Ser Glu	
145 150 155 160	
tta aaa gat ttc ttc aat gct ggc agc cta ctg gag caa gto caa tcc	529
Leu Lys Asp Phe Phe Asn Ala Gly Ser Leu Leu Glu Gln Val Gln Ser	
165 170 175	
atc gag caa tct ttg gat gag tct ggc tta gaa gct ctc tca tcc ttt	577
Ile Glu Gln Ser Leu Asp Glu Ser Gly Leu Glu Ala Leu Ser Ser Phe	
180 185 190	
ctg aaa acc aaa aag aat tta gac caa ctg gaa gat gca aaa gat ttg	625
Leu Lys Thr Lys Asn Leu Asp Gln Leu Glu Asp Ala Lys Asp Leu	
195 200 205	
gat gaa aat ggt ggc gtt caa gtt ttg ttg aaa gcc ttg ctg tcg tta	673
Asp Glu Asn Gly Gly Val Gln Val Leu Leu Lys Ala Leu Leu Ser Leu	
210 215 220	
tct tat cta aga tca att cta atg aag ggt ctg gaa agt ggc ctt aga	721
Ser Tyr Leu Arg Ser Ile Leu Met Lys Gly Leu Glu Ser Gly Leu Arg	
225 230 235 240	
aat gat gct cca gat agt gct att gca atg cga caa aag tgg cgt ctt	769
Asn Asp Ala Pro Asp Ser Ala Ile Ala Met Arg Gln Lys Trp Arg Leu	
245 250 255	
tgt gag atc ggg ctt gaa gat tat tcg ttt gta ttg tta agt aga tac	817
Cys Glu Ile Gly Leu Glu Asp Tyr Ser Phe Val Leu Leu Ser Arg Tyr	
260 265 270 275	
atc aat gct ctt gaa gct ttg ggt gga tca gct tca ctt gca gag ggt	865
Ile Asn Ala Leu Glu Ala Leu Gly Gly Ser Ala Ser Leu Ala Glu Gly	
275 280 285	
ctt cct aca aat aca agt cta tgg gat gat gcc ctt gat gcc ctt gtc	913
Leu Pro Thr Asn Thr Ser Leu Trp Asp Asp Ala Leu Asp Ala Leu Val	
290 295 300	
att ggc ata aat caa gtt agc ttt tca gga tgg aaa cca aat gag tgt	961
Ile Gly Ile Asn Gln Val Ser Phe Ser Gly Trp Lys Pro Asn Glu Cys	
305 310 315 320	
act gca ata gtg aat gag ctt ctt tct tgg aag cag aaa ggt cta tct	1009
Thr Ala Ile Val Asn Glu Leu Leu Ser Trp Lys Gln Lys Gly Leu Ser	
325 330 335	
gaa ttt gaa ggc agt gag gat gga aag tat att tgg gca ctg aga ctc	1057
Glu Phe Glu Gly Ser Glu Asp Gly Lys Tyr Ile Trp Ala Leu Arg Leu	
340 345 350	
aaa gcc act ctt gat aga tca cga aga cta aca gaa gaa tac tct gaa	1105
Lys Ala Thr Leu Asp Arg Ser Arg Arg Leu Thr Glu Glu Tyr Ser Glu	
355 360 365	
gca ctt ctt tct ata ttt cct gaa aaa gtc aag gtt ctt ggg aaa gcc	1153
Ala Leu Leu Ser Ile Phe Pro Glu Lys Val Lys Val Leu Gly Lys Ala	
370 375 380	
ctt gga ata cca gag aac agt gtg aga aca tac act gaa gct gaa att	1201
Leu Gly Ile Pro Glu Asn Ser Val Arg Thr Tyr Thr Glu Ala Glu Ile	
385 390 395 400	

BCS 04-501-PCT_SEQUENZPROTOKOLL_Verfahren zur Identifizierung.ST25
cgt gct ggt gtt att ttt cac gtc tcg aaa ctt tgc act gta ctt tta 1249
Arg Ala Gly Val Ile Phe His Val Ser Lys Leu Cys Thr Val Leu Leu
405 410 415

aaa gca act cga gca gtt ctt gga tcg tct gtg tgg gat gtt ctt gtt 1297
Lys Ala Thr Arg Ala Val Leu Gly Ser Ser Val Trp Asp Val Leu Val
420 425 430

cct gga gtg gcc cat gga gcc ttg ata cag gtt gaa aga ata gct cct 1345
Pro Gly Val Ala His Gly Ala Leu Ile Gln Val Glu Arg Ile Ala Pro
435 440 445

gga tca ttg cca tca tcc atc aaa gaa cct gtc gtg cta gtt gta aac 1393
Gly Ser Leu Pro Ser Ser Ile Lys Glu Pro Val Val Leu Val Val Asn
450 455 460

aag gct gat gga gat gaa gag gtc aaa gct gct ggg gat aac ata gtg 1441
Lys Ala Asp Gly Asp Glu Glu Val Lys Ala Ala Gly Asp Asn Ile Val
465 470 475 480

gtt gtt att ctt cta caa gaa tta cct cac cta tca cat ctt ggt gtt 1489
Gly Val Ile Leu Leu Gln Glu Leu Pro His Leu Ser His Leu Gly Val
485 490 495

aga gct cgt caa gag aaa gtt gta ttt gta act tgc g 1526
Arg Ala Arg Gln Glu Lys Val Val Phe Val Thr Cys
500 505

<210> 22

<211> 508

<212> PRT

<213> Sorghum bicolor

<400> 22

His Glu Ala Glu Tyr Val His Asp Gln Ser His Leu Glu Ala Leu Thr
1 5 10 15

Tyr Ser Ala Ile Tyr Leu Lys Trp Ile Tyr Thr Gly Gln Ile Pro Cys
20 25 30

Phe Glu Asp Gly Gly His His Arg Pro Asn Lys His Ala Glu Ile Ser
35 40 45

Arg Gln Ile Phe Arg Glu Ile Glu Arg Ile Tyr Tyr Gly Glu Asn Thr
50 55 60

Ser Ala Gln Asp Leu Leu Val Ile Arg Lys Ile His Pro Cys Leu Pro
65 70 75 80

Ser Phe Lys Ser Glu Phe Thr Ala Ser Val Pro Leu Thr Arg Ile Arg
85 90 95

Asp Ile Ala His Arg Asn Asp Ile Pro His Asp Leu Lys Gln Glu Ile
100 105 110

BCS 04-501-PCT_SEQUENZPROTOKOLL_Verfahren zur Identifizierung.ST25

Lys His Thr Ile Gln Asn Lys Leu His Arg Asn Ala Gly Pro Glu Asp
 115 120 125

Leu Ile Ala Thr Glu Ala Met Leu Ala Arg Ile Thr Lys Thr Pro Gly
 130 135 140

Glu Tyr Ser Glu Ala Phe Val Glu Gln Phe Lys Thr Phe Tyr Ser Glu
 145 150 155 160

Leu Lys Asp Phe Phe Asn Ala Gly Ser Leu Leu Glu Gln Val Gln Ser
 165 170 175

Ile Glu Gln Ser Leu Asp Glu Ser Gly Leu Glu Ala Leu Ser Ser Phe
 180 185 190

Leu Lys Thr Lys Lys Asn Leu Asp Gln Leu Glu Asp Ala Lys Asp Leu
 195 200 205

Asp Glu Asn Gly Gly Val Gln Val Leu Leu Lys Ala Leu Leu Ser Leu
 210 215 220

Ser Tyr Leu Arg Ser Ile Leu Met Lys Gly Leu Glu Ser Gly Leu Arg
 225 230 235 240

Asn Asp Ala Pro Asp Ser Ala Ile Ala Met Arg Gln Lys Trp Arg Leu
 245 250 255

Cys Glu Ile Gly Leu Glu Asp Tyr Ser Phe Val Leu Leu Ser Arg Tyr
 260 265 270

Ile Asn Ala Leu Glu Ala Leu Gly Gly Ser Ala Ser Leu Ala Glu Gly
 275 280 285

Leu Pro Thr Asn Thr Ser Leu Trp Asp Asp Ala Leu Asp Ala Leu Val
 290 295 300

Ile Gly Ile Asn Gln Val Ser Phe Ser Gly Trp Lys Pro Asn Glu Cys
 305 310 315 320

Thr Ala Ile Val Asn Glu Leu Leu Ser Trp Lys Gln Lys Gly Leu Ser
 325 330 335

Glu Phe Glu Gly Ser Glu Asp Gly Lys Tyr Ile Trp Ala Leu Arg Leu
 340 345 350

Lys Ala Thr Leu Asp Arg Ser Arg Arg Leu Thr Glu Glu Tyr Ser Glu
 355 360 365

Ala Leu Leu Ser Ile Phe Pro Glu Lys Val Lys Val Leu Gly Lys Ala
 370 375 380

BCS 04-501-PCT_SEQUENZPROTOKOLL_Verfahren zur Identifizierung.ST25

Leu Gly Ile Pro Glu Asn Ser Val Arg Thr Tyr Thr Glu Ala Glu Ile
385 390 395 400

Arg Ala Gly Val Ile Phe His Val Ser Lys Leu Cys Thr Val Leu Leu
405 410 415

Lys Ala Thr Arg Ala Val Leu Gly Ser Ser Val Trp Asp Val Leu Val
420 425 430

Pro Gly Val Ala His Gly Ala Leu Ile Gln Val Glu Arg Ile Ala Pro
435 440 445

Gly Ser Leu Pro Ser Ser Ile Lys Glu Pro Val Val Leu Val Val Asn
450 455 460

Lys Ala Asp Gly Asp Glu Glu Val Lys Ala Ala Gly Asp Asn Ile Val
465 470 475 480

Gly Val Ile Leu Leu Gln Glu Leu Pro His Leu Ser His Leu Gly Val
485 490 495

Arg Ala Arg Gln Glu Lys Val Val Phe Val Thr Cys
500 505

<210> 23

<211> 8

<212> PRT

<213> Triticum aestivum

<400> 23

Arg Asn Asp Ala Thr Asp Ala Gly
1 5

<210> 24

<211> 8

<212> PRT

<213> Triticum aestivum

<400> 24

Gly Asn Thr Ser Val Trp Asp Asp
1 5

<210> 25

<211> 509

BCS 04-501-PCT_SEQUENZPROTOKOLL_Verfahren zur Identifizierung.ST25

<212> DNA

<213> Triticum aestivum

<220>

<221> CDS

<222> (1)..(507)

<223>

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Asn Gly Ala Phe Val Glu Gln Phe Gln Ile Phe Tyr Ser Glu Leu Lys		
1 5 10 15		
gac ttc ttt aat gcc ggc agc ctg ttt gaa caa ctg gaa tcc atc aag		96
Asp Phe Phe Asn Ala Gly Ser Leu Phe Glu Gln Leu Glu Ser Ile Lys		
20 25 30		
gaa tct ttg aat gat tct ggc tta gaa gca ctg tca tca ttt gtc aaa		144
Glu Ser Leu Asn Asp Ser Gly Leu Glu Ala Leu Ser Ser Phe Val Lys		
35 40 45		
acc aaa cag agt ttg gac caa gtg gat gct gcg aac att caa gtt gtg		192
Thr Lys Gln Ser Leu Asp Gln Val Asp Ala Ala Asn Ile Gln Val Val		
50 55 60		
atg aag acc ttg cag tca ttg tct tca ttg aga tca gtt cta atg aag		240
Met Lys Thr Leu Gln Ser Leu Ser Ser Leu Arg Ser Val Leu Met Lys		
65 70 75 80		
ggc ctt gaa agt ggc ctt aga aat gat gcg act gat gcc ggt ata gca		288
Gly Leu Glu Ser Gly Leu Arg Asn Asp Ala Thr Asp Ala Gly Ile Ala		
85 90 95		
atg cga caa aag tgg cgc ctt tgt gag att ggt ctt gag gat tat tct		336
Met Arg Gln Lys Trp Arg Leu Cys Glu Ile Gly Leu Glu Asp Tyr Ser		
100 105 110		
ttt gtt ttg tta agc aga tat atc aat ggt ctt gaa gct tca ggt gga		384
Phe Val Leu Leu Ser Arg Tyr Ile Asn Gly Leu Glu Ala Ser Gly Gly		
115 120 125		
tca gct tca ctt gca caa tgt gtg gct gga aat aca agt gta tgg gac		432
Ser Ala Ser Leu Ala Gln Cys Val Ala Gly Asn Thr Ser Val Trp Asp		
130 135 140		
gat acc ctt gat gcc ctt att att ggc gtc aat caa gtt agc ttt tca		480
Asp Thr Leu Asp Ala Leu Ile Ile Gly Val Asn Gln Val Ser Phe Ser		
145 150 155 160		
ggt tgg aag cca gag gaa tgc att gct at		509
Gly Trp Lys Pro Glu Glu Cys Ile Ala		
165		

<210> 26

<211> 169

<212> PRT

BCS 04-501-PCT_SEQUENZPROTOKOLL_Verfahren zur Identifizierung.ST25

<213> Triticum aestivum

<400> 26

Asn Gly Ala Phe Val Glu Gln Phe Gln Ile Phe Tyr Ser Glu Leu Lys
1 5 10 15

Asp Phe Phe Asn Ala Gly Ser Leu Phe Glu Gln Leu Glu Ser Ile Lys
20 25 30

Glu Ser Leu Asn Asp Ser Gly Leu Glu Ala Leu Ser Ser Phe Val Lys
35 40 45

Thr Lys Gln Ser Leu Asp Gln Val Asp Ala Ala Asn Ile Gln Val Val
50 55 60

Met Lys Thr Leu Gln Ser Leu Ser Ser Leu Arg Ser Val Leu Met Lys
65 70 75 80

Gly Leu Glu Ser Gly Leu Arg Asn Asp Ala Thr Asp Ala Gly Ile Ala
85 90 95

Met Arg Gln Lys Trp Arg Leu Cys Glu Ile Gly Leu Glu Asp Tyr Ser
100 105 110

Phe Val Leu Leu Ser Arg Tyr Ile Asn Gly Leu Glu Ala Ser Gly Gly
115 120 125

Ser Ala Ser Leu Ala Gln Cys Val Ala Gly Asn Thr Ser Val Trp Asp
130 135 140

Asp Thr Leu Asp Ala Leu Ile Ile Gly Val Asn Gln Val Ser Phe Ser
145 150 155 160

Gly Trp Lys Pro Glu Glu Cys Ile Ala
165